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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,901	09/29/2000	Yukihiro Komatsu	017700/0143	8821

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FOLEY AND LARDNER
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EXAMINER

CARTER, AARON W

ART UNIT PAPER NUMBER

2625

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/672,901

Applicant(s)

KOMATSU, YUKIHIRO

Examiner

Aaron W Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27 is/are allowed.
- 6) ☒ Claim(s) 18-26 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 22, 2004 has been entered.

Claim Objections

2. Claim 27 objected to because of the following informalities:

In line 11, the phrase "a line circle and arc" should include a comma to read as "a line, circle and arc"

Appropriate correction is required.

3. Examiner notes, for the purpose of clarification, that the claims presented along with the RCE are either labeled as "Previously Presented" or "Currently Amended". This labeling is incorrect, since the claims presented in the After Final Amendment were never entered, the claims presented with the RCE should have been labeled as "New".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wahawisan (already of record) in view of USPN 5,544,256 to Brecher et al. ("Brecher").

As to claim 18, Wahawisan discloses an image processing apparatus for performing, using a reference image, a set process for inspecting an input image of a product to be inspected, comprising:

Inspection type inputting means for inputting a type of inspection (Fig. 8, column 5, lines 46-52); and

Operation guiding means for guiding an operation of setting said process suitable for said desired type of inspection input by said inspection type inputting means (column 6, lines 13-20).

Wahawisan does not disclose expressly wherein said operation guiding means comprises means for guiding, when a presence inspection to inspect presence of a predetermined character at a particular position of said product to be inspected is input as said type of inspection by said inspection type inputting means, an operation of specifying an inspection method including options of shape, size, and brightness.

However, Brecher discloses an image processing apparatus for performing, using a reference image, a set process for inspecting an input image of a product to be inspected (Fig. 4, elements 19, 62 and 64) comprising an operation guiding means comprises means for guiding, when a presence inspection to inspect presence of a predetermined character at a particular position of said product to be inspected is the type of inspection, an operation of specifying an inspection method including options of shape, size, and brightness (Fig. 8, element 79, "Location" and column 10, lines 35-42, wherein the user may select the location to inspect in an effort to detect the presence of a defect, as well as setting the size, shape and brightness options).

Wahawisan & Brecher are combinable because they are from the art of product inspection using image analysis.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the options of setting the location, shape, size and brightness for inspections as taught by Brecher with the product inspection apparatus disclosed by Wahawisan that provides the option of choosing an inspection type.

The suggestion/motivation for doing so would have been to maximize the inspection accuracy and to minimize the computation load (Brecher, column 10, line 35-37).

Therefore, it would have been obvious to combine Wahawisan with Brecher to obtain the invention as specified in claim 18.

As to claim 19, the combination of Wahawisan and Brecher disclose the image processing apparatus according to claim 18, wherein said operation guiding means guides an operation of specifying an image range that becomes a subject of said presence inspection, after

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said presence inspection is input as said type of inspection and before guiding an operation of specifying an inspection method (Brecher, Fig. 8, elements 60, 66, 62 and 70).

6. Claims 20-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wahawisan in view of USPN 6,324,298 to O'Dell et al. ("O'Dell").

As to claim 20, Wahawisan discloses an image processing apparatus for performing, using a reference image, a set process for inspecting an input image of a product to be inspected, comprising:

Inspection type inputting means for inputting a type of inspection (Fig. 8, column 5, lines 46-52); and

Operation guiding means for guiding an operation of setting said process suitable for said desired type of inspection input by said inspection type inputting means (column 6, lines 13-20).

Wahawisan does not disclose expressly wherein said operation guiding means comprises means for guiding, when a conformance inspection to inspect whether the type of said product to be inspected matches a preregistered product is input as said type of inspection by said inspection type inputting means, an operation of specifying an inspection method including options of shape, size, number of lines and brightness.

However, O'Dell discloses an image processing apparatus for performing, using a reference image, a set process for inspecting an input image of a product to be inspected (Fig. 5), comprising an operation guiding means comprises means for guiding, when a conformance inspection to inspect whether the type of said product to be inspected matches a preregistered

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product is the type of inspection (Fig. 5, element C7, wherein “Good Model” corresponds to preregistered product), an operation of specifying an inspection method including options of shape, size, number of lines and brightness (Fig. 5, element C7, column 7, lines 8-22, column 12, lines 55-59 and column 15, lines 36-40, wherein “Good Model” corresponds to preregistered product).

Wahawisan & O’Dell are combinable because they are from the art of product inspection using image analysis.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the use of conformance inspection and options of setting, shape, size, number of lines and brightness for inspections as taught by O’Dell with the product inspection apparatus disclosed by Wahawisan that provides the option of choosing an inspection type.

The suggestion/motivation for doing so would have been to provide an automated inspection system that can be customized to the user’s inspection requirements (O’Dell, column 4, lines 10-14).

Therefore, it would have been obvious to combine Wahawisan with O’Dell to obtain the invention as specified in claim 20.

As to claim 21, the combination of Wahawisan and O’Dell disclose the image processing apparatus according to claim 20, wherein said operation guiding means guides an operation of specifying an image range that becomes a subject of said conformance inspection after guiding an operation of specifying an inspection method (O’Dell, (column 16, lines 30-38 and 55-65 and column 17, lines 39-53).

As to claim 22, the limitation of this claim are the same as the limitation presented in claim 20, with the exception of the limitation “when an orientation inspection to inspect whether a direction or front/back side of said product to be inspected is proper or not” which is disclosed by O’Dell, column 7, lines 8-22, column 12, lines 55-59 and column 15, lines 36-40, wherein die pitch corresponds to direction. Please refer to the rejection of claim 20, for an explanation of the rejection of the other limitation presented in this claim.

As to claim 23, please refer to the rejections made for claim 21 above.

As to claim 24, the limitation of this claim are the same as the limitation presented in claim 20, with the exception of the limitation “when a position inspection to inspect whether a position of a character specified in said product to be inspected is within a proper range or not” which is disclosed by O’Dell, column 16, lines 55-65 and column 17, lines 39-53. Please refer to the rejection of claim 20, for an explanation of the rejection of the other limitation presented in this claim.

As to claim 25, the combination of Wahawisan and O’Dell disclose the image processing apparatus according to claim 24, wherein said range specify guiding means guides an operation of specifying a magnification for correspondence between a dimension in an image and actual dimension to specify said proper range in said actual dimension (O’Dell, column 10, lines 25-29).

As to claim 26, the limitation of this claim are the same as the limitation presented in claim 24 and 25, with the exception of the limitation “wherein said operation guiding means comprises 2 point specify guiding means for guiding, when a dimension inspection to inspect whether a position relation or distance between two points specified as said product to be inspected is within a proper range, an operation of specifying a position of said two points and specifying a proper range” which is disclosed by O’Dell, column 16, lines 55-65 and column 17, lines 39-53, specifically lines 48-53. Please refer to the rejection of claims 24 and 25, for an explanation of the rejection of the other limitation presented in this claim.

As to claim 28, the limitation of this claim are the same as the limitation presented in claim 20, with the exception of the limitation “when a surface defect inspection to inspect absence of visual defect in a specified range of said product to be inspected, an operation of specifying an image range that becomes a subject of inspection” which is disclosed by O’Dell, column 16, lines 30-38 and 55-65 and column 17, lines 39-53, specifically lines 48-53. Please refer to the rejection of claims 24 and 25, for an explanation of the rejection of the other limitation presented in this claim.

Allowable Subject Matter

7. Claim 27 is allowed.

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8. The following is an examiner's statement of reasons for allowance:

As to claim 27, none of the prior art teach or fairly suggest an operation guiding means for guiding, when a chip and burr inspection, to inspect absence of improper chip or burr at an outer circumferential edge of said product to be inspected, is input as said type of inspection by said inspection type inputting means, an operation of specifying a type of graphical shape to specify an inspection range from options of a line, circle and arc. Wahawisan (already of record) discloses an inspection inputting means and an operation guiding means, including an option of inputting chip and burr inspection as the inspection type, but does not teach or fairly suggest specifying a type of graphical shape to specify an inspection range from options of a line, circle and arc.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron W Carter whose telephone number is (703) 306-4060 or at (571) 272-7445 after April 1, 2005. The examiner can normally be reached on 7am - 3:30 am (Mon. - Fri.).

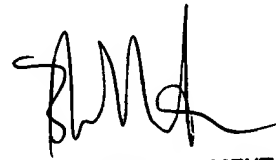
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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